



Texaco Exploration

August 19, 1994

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
PO BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504

Case 11111

Attention: David Catanach

RE: **Application for exception to NMOCD Rule 303-A: Downhole Commingle of
H.J. Loe Federal B No. 2E 1700' FNL & 1050' FWL, Unit E, Sec. 23-T29N-
R12W, NMPM, San Juan County, New Mexico**

Dear Mr. Catanach:

Texaco Exploration and Production Inc. respectfully requests administrative approval to downhole commingle the Fulcher Kutz Pictured Cliffs Gas Pool and the Basin Dakota Gas Pool within the referenced well. Approval of this application would require an exception to NMOCD Rule 303-a. Please accept the attached information in your consideration of this matter. All offset operators were notified of this request by certified mail and were sent a copy of the supporting information (copy of return receipt cards attached).

Production methods are limited due to the 4-1/2" production casing the well is completed with. This size of casing does not offer sufficient room to run adequately sized tubing strings to each formation. The downhole commingling of these zones will offer an economic method of production without reservoir damage, waste reserves, or violation of correlative rights.

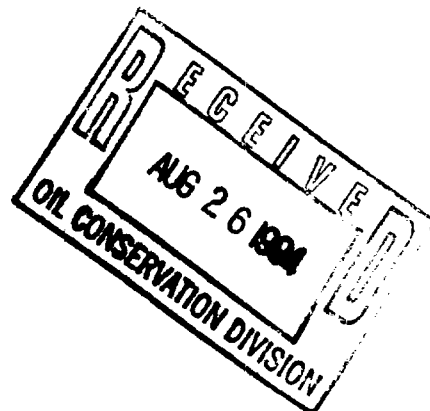
If you have and questions concerning this matter please contact Mr. Robert Schaffitzel at (505) 325-4397, ext. 27. Your attention to this matter is greatly appreciated.

Sincerely,

Ted A. Tipton
Area Manager

RFS/s

Attachments
NMOCD-Aztec
file



Application for Exception to Rule 303-Segregation of Production From Pools

- (1) **Name and address of the operator:** Texaco Exploration and Production
3300 N. Butler Suite 100
Farmington, NM 87401
- (2) **Lease name, well number, well location, name of the pools to be commingled.**

Lease Name: H.J. Loe Federal B
Well Number: 2E
Well Location: 1700' FNL & 1050' FWL, Unit E, Sec. 23
T29N-R12W, NMPM
San Juan County, New Mexico

Pools to Commingle: Fulcher Kutz, Pictured Cliffs
Basin, Dakota

- (3) **A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.**

Attached (Attachment I, II, III, IV)

- (4) **A current (within 30 days) 24-hour productivity test on Division C-116 showing the amount of oil, gas and water produced from each zone.**

The C-115 for H.J. Loe Federal B 2E Basin Dakota and Fulcher Kutz Pictured Cliffs are attached (Attachment V, VI).

- (5) **A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone for statistical purposes. (This requirement may be dispensed with in the case of a newly completed or recently completed well which has little or no production history. However, a complete resume of the well's completion history including description of treating, testing, etc., of each zone, and a prognostication of future production from each zone shall be submitted.)**

Dakota completion: Decline curve attached (Attachment VII), well has effective annual decline of 5.13 % and a calculated GOR of 188,732 SCF/STB.

P.C. completion: Decline curve attached (Attachment VIII), formation was perforated at 1636'-1734' and stimulated on November 4, 1992 with 29,300 GALs of X-linked gel with 125,220 LBS of 20/40 sand followed with 10,000 LBS of Resin coated sand. The well was cleaned. The well is currently shut-in and both zones are logged off awaiting final production equipment and regulatory approvals.

Currently both zones are logged off due to insufficient bottom hole pressure on the PC formation therefore limiting production from the well. The Dakota zone has a 1.060 I.D. tubing string that causes too much friction loss to produce the well (Attachment IX, current completion).

Application for Exception to Rule 303-Segregation of Production From Pools
Requirements Continued.

- (6) **Estimated bottomhole pressure for each artificially lifted zone. A current (within 30 days) measured bottomhole pressure for each zone capable of flowing.**

Dakota completion: 450 psig (Attachment X)
Fulcher Kutz completion: 249 psig (Attachment XI)

The Fulcher Kutz pressure was a 72 hour shut-in pressure obtained from a State of NM packer leakage test conducted 12-20-93. The Dakota P_{BH} was calculated using a seven day shut-in pressure, read at the surface. The pressure was taken from a State of NM packer leakage test dated 11-23-92. The pressure differential between the zones will not present a crossflow problem. The proposed method of production is to run a 2-3/8" tubing string to the bottom of the Dakota perforations and run rods and install a pumping unit to pump both zones this will keep all fluids off the Dakota formation.

- (7) **A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the well-bore.**

The fluids have no abnormal components that would prohibit commingling, or promote the creation of emulsions or scale (see attachment XII-A,B, produced water analysis).

- (8) **A computation showing that the value of the commingled production will not be less than the sum of the individual streams.**

<u>Dakota Production</u>		<u>Fulcher Kutz PC Production</u>	
Oil, BOPD	1	Oil, BOPD	0
Gas, MCFD	138	Gas, MCFD	168
Water, BWPD	1.5	Water, BWPD	12

The combined production from the PC and Dakota formations will be approximately 362 MCFD, 1 BOPD, and 18 BWPD. The increase in production will occur due to the pressure drop on both formations because the fluid will be pumped out through the 2 3/8" tubing and the gas will flow free of fluid up the 4.5" casing.

- (9) **A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula.**

Using our anticipated rates as shown in item #8 as an example, allocation will be calculated as follows:

	<u>Gas</u>	<u>Oil</u>	<u>Water</u>
Pictured Cliffs	168/306=55%	0/1=0%	12/13.5=89%
Dakota	138/306=45%	1/1=100%	1.5/13.5=11%

- (10) **A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.**

All offset operators and the BLM have been notified. Please find attached, signed return receipt cards from each operator.

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Bureau of Geology, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

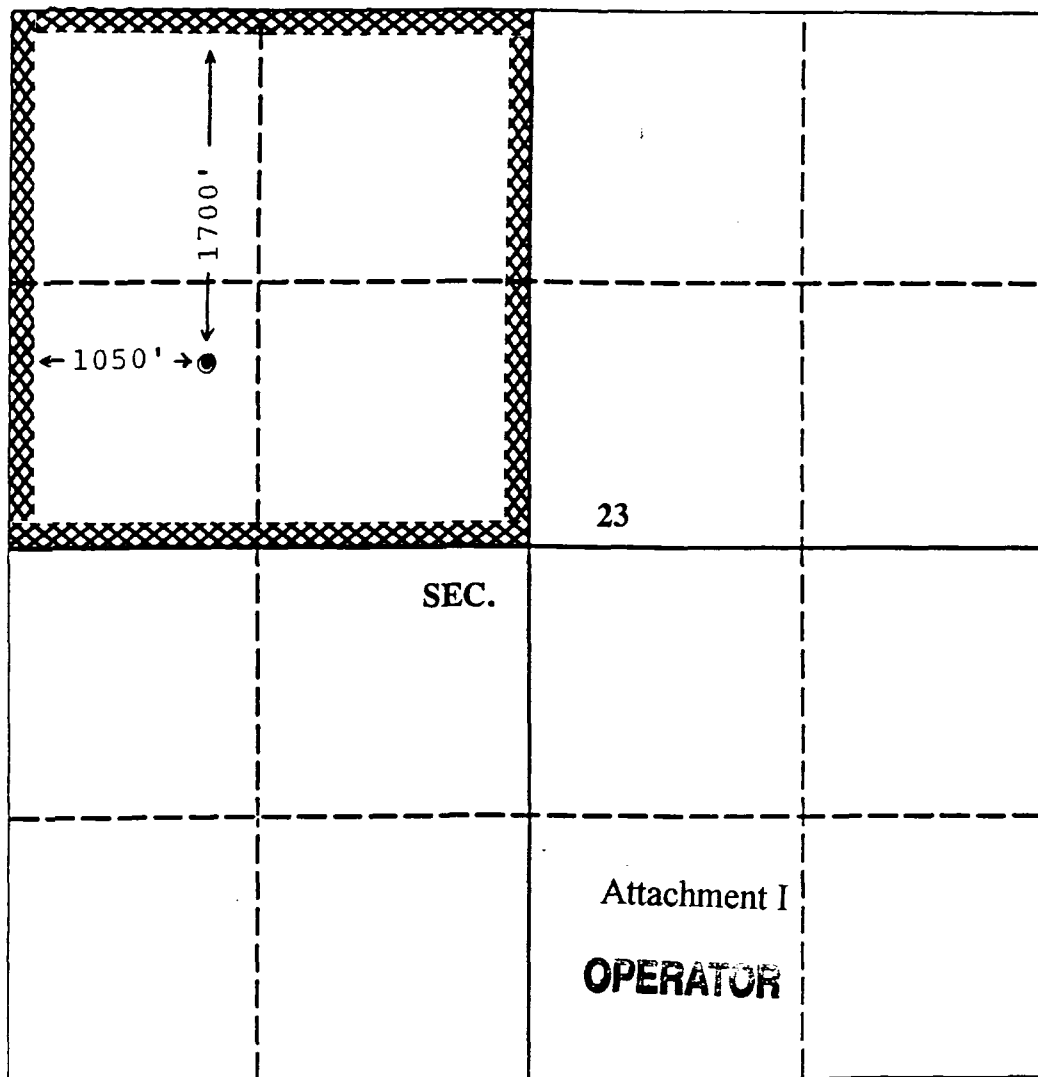
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Texaco E & P Inc.			Lease H.J. Loe Federal B		Well No. 2E
Unit Letter E	Section 23	Township 29N	Range 12W	County NMPM	San Juan
Actual Footage Location of Well: 1700' feet from the North line and 1050' feet from the West line					
Ground level Elev. 5659'	Producing Formation Pictured Cliffs		Pool Fulcher Kutz	Dedicated Acreage: 160 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc?
☐ Yes ☐ No If answer is "yes" type of consolidation _____
If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary).
No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Printed Name

Ted A. Tipton

Position

Area Manager

Company

Texaco Inc.

Date

11-09-92

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Signature & Seal of
Professional Surveyor

ACCEPTED FOR RECORD

DEC 16 1992

Certificate No.

FARMINGTON RESOURCE AREA

BY

**OFFSET OPERATORS
H.J. LOE FEDERAL 'B' LEASE
SEC. 23 T29N / R12W
BASIN DAKOTA FIELD**

15 AMOCO PROD. CO	AMOCO PROD. CO 14 MERIDIAN OIL, INC	SOUTHLAND ROYALTY CO. 13 CONOCO INC.
UNOCAL 22 AMOCO PROD. CO	TEXACO E&P, INC  23	CONOCO INC. 24 AMOCO PROD. CO
AMOCO PROD. CO 27	AMOCO PROD. CO 26	AMOCO PROD. CO 25

OFFSET OPERATORS
H.J. LOE FEDERAL 'B' LEASE
SEC. 23 T29N / R12W
FULCHER KUTZ PICTURED CLIFFS

15	14 R & G DRILLING CO.	PRODUCING ROYALTIES INC. SOUTHLAND ROYALTY CO. 13
22	TEXACO E&P, INC  23	ALPINE OIL & GAS RODDY PROD. CO. INC. 24
27	26	25

**OFFSET OPERATORS
H.J. LOE FEDERAL B-2
T29N/R12W**

Alpine Oil & Gas Corporation
Box 2567
Durango, CO 81302
(303)247-5386

R & G Drilling Company, Inc.
204 N. Auburn Ave.
Farmington, NM 87401

Amoco Production Company
200 Amoco Court
Farmington, NM 87401
(505)326-9200

Roddy Production Company Inc.
3001 Northridge Dr.
Farmington, NM 87401
(505)325-5750

Conoco Inc.
Petroleum Center Bldg. Ste. 115
501 Airport Dr.
Farmington, NM 87401
(505)327-9557

Southland Royalty Company
Box 4239
2919 Allen Pkwy.
Houston, TX 77210
(713)831-1600

Meridian Oil Inc.
3535 E. 30
Farmington, NM 87401
(505)326-9700

Unocal Corporation
Box 850
Bloomfield, NM 87413
(505)632-1811

Producing Royalties Inc.
Box 1071
4433 Brownfield Hwy.
Lubbock, TX 79408
(806)791-1133

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

51000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals, and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. BOX 2088
Santa Fe, New Mexico 87504-2088

Company For Operator **TEXACO EXPLORATION & PRODUCTION INC.** Address **3300 NORTH BUTLER FARMINGTON, NM 87401** Zip **87401** For Month, Year **09 1993** Page **39** of **125**

Form C-115 - Revised 1/1/93
See Distribution and Code
Information Bottom of Page

POOL NAME (Underline) Lease Name		INJECTION			PRODUCTION			DISPOSITION OF GAS			DISPOSITION OF OIL										
WELL NO.	UNIT	SEC.	TWP.	RNG.	VOLUME	PRESS.	BARRELS OIL/COND. PRODUCED	BARRELS OF WATER PRODUCED	GAS PRODUCED (MCF)	DAYS PROD	SOLD	TRANS-PORTER	OTHER	CODE	OIL ON HAND AT BEG. OF MONTH	BBL. TO TRANS-PORTER	TRANS-PORTER	OTHER	CODE	OIL ON HAND AT END OF MONTH	
<p>BASIN DAKOTA (PRORATED GAS)</p> <p>LOE, H. J. FEDERAL "B"</p>																					
30-045-24554	2E	E	23	29N	12W	P	0	0	0	146	30										
30-045-22163	2R	G	23	29N	12W	P	0	0	0	12561	30										
30-045-07855	3	M	23	29N	12W	P	0	0	52	9128	30										
30-045-24555	3E	O	23	29N	12W	P	0	0	9	6323	30										
<p>Attachment V</p>																					
0					0		100	0	28159	28159	TEP				0	210	0		0		310

DISTRIBUTION

Original OCD Santa Fe

One Copy OCD Dist. Office

in which lease is located

One Copy to Transporter (s)

STATUS CODE

F FLOWING

P PUMPING

G GAS LIFT

S SHUT IN

T TEMP. ABANDONED

I INJECTION

D DISCONTINUED

"OTHER" GAS DISPOSITION CODE

X USED OFF LEASE

D USED FOR DRILLING

G GAS LIFT

L LOST (MCF ESTIMATED)

E EXPLANATION ATTACHED

R REPRESSURING OR

V VENTED

U USED ON LEASE

"OTHER" OIL DISPOSITION CODE

C CIRCULATING OIL

L LOST

S SEDIMENTATION (BS & W)

E EXPLANATION ATTACHED

T THEFT

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE

T. A. TIPTON

(TYPED NAME)

AREA MANAGER

(POSITION)

DATE DUE

To be postmarked by 24th day

of next succeeding month

10-27-93

(DATE)

State of New Mexico
Energy, Minerals, and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. BOX 2088
Santa Fe, New Mexico 87504-2088

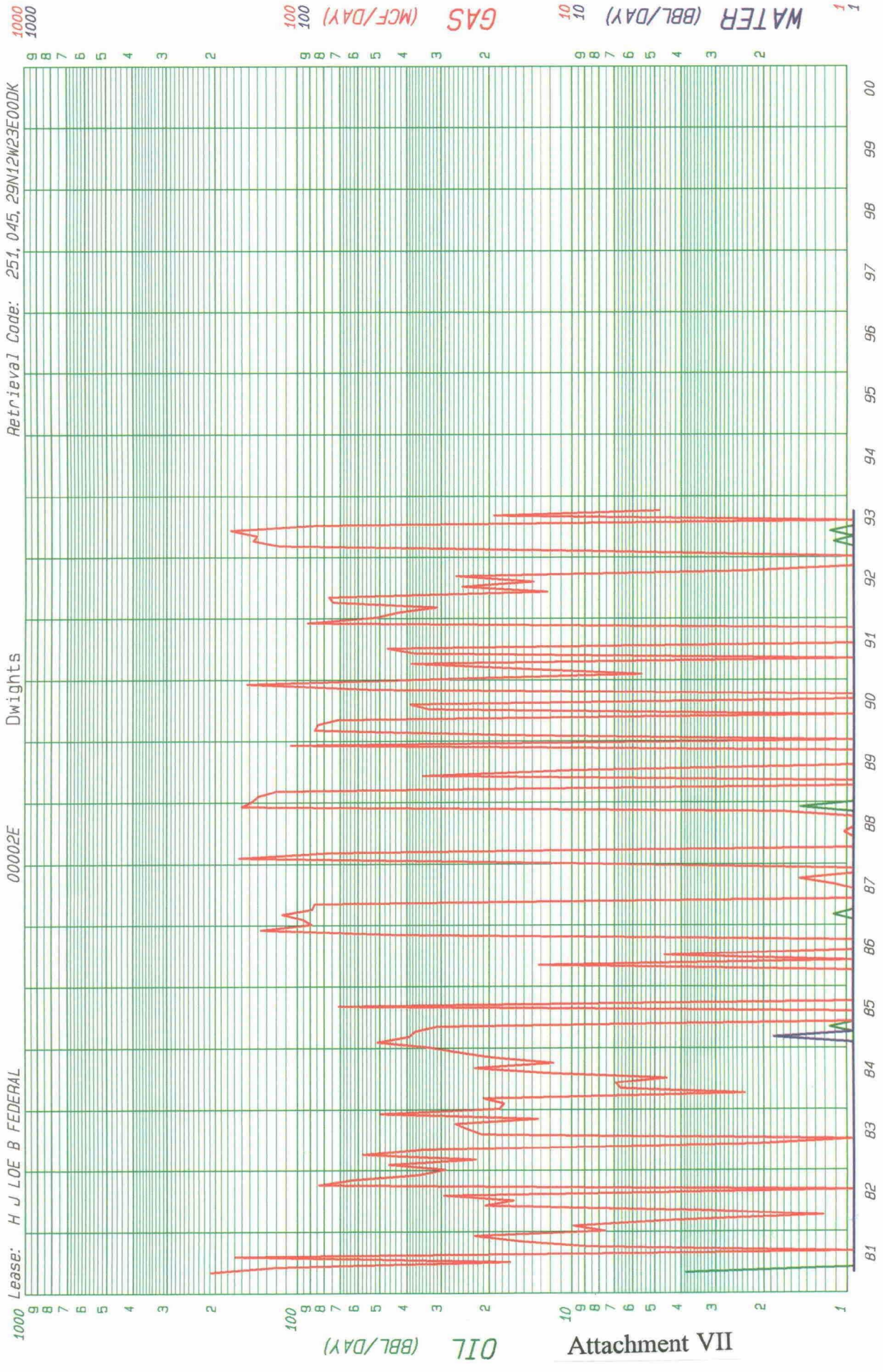
TRICT I
Box 1980, Hobbs, NM 88240
TRICT II
Drawer DD, Artesia, NM 88210
TRICT III
00 Rio Brazos Rd., Aztec, NM 87410

Company: **TEXACO EXPLORATION & PRODUCTION INC.** Address: **3300 NORTH BUTLER FARMINGTON, NM 87401** Zip: **87401** For Month, Year: **06 1994** Page: **108** of **126**

POOL NAME (Underline) Lease Name		INJECTION		PRODUCTION			DISPOSITION OF GAS			DISPOSITION OF OIL					
		VOLUME	PRESS.	BARRELS OIL/COND. PRODUCED	BARRELS OF WATER PRODUCED	GAS PRODUCED (MCF)	SOLD	TRANS- PORTER	OTHER	CODE	OIL ON HAND AT BEG. OF MONTH	TRANS- PORTER	OTHER	CODE	OIL ON HAND AT END OF MONTH
WELL NO.	UNIT	SEC.	TVVP.	RNG.	WELL STATUS										
CHER KUTZ PICTURED CLIFF (GAS)															
OE, H. J. FEDERAL "B"															
045-24554	2E	23	29N	12W	P	0	0	0	199	698	30				
045-07955	3	23	29N	12W	P	0	0	0	0	869	1	30			
045-24555	3E	23	29N	12W	P	0	0	0	792	749	4	30			
						0	0	0	991	16883	16883	TEP	0	0	0

Attachment VI

DISTRIBUTION Initial OCD Santa Fe Copy OCD Dist. Office in which lease is located Copy to Transporter (s)	STATUS CODE FFLOWING PPUMPING GGAS LIFT SSHUT IN TTEMP. ABANDONED IINJECTION DDISCONTINUED	"OTHER" GAS DISPOSITION CODE XUSED OFF LEASE DUSED FOR DRILLING GGAS LIFT LLOST (MCF ESTIMATED) EEXPLANATION ATTACHED RPRESSURING OR VVENTED UUSED ON LEASE	"OTHER" OIL DISPOSITION CODE CCIRCULATING OIL LLOST SSEDIMENTATION (BS & W) EEXPLANATION ATTACHED TTHEFT	I HEREBY CERTIFY THAT THE INFORMATION GIVEN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE T. A. TIPTON (TYPED NAME) AREA MANAGER (POSITION) 505 325 - 3397 (PHONE NUMBER)
E DUE be postmarked by 24th day next succeeding month		08 - 01 - 94 (DATE)		



Lease: H J LOE B FEDERAL

00002E

Dwights

Retrieval Code: 251, 045, 29N12W23E00DK

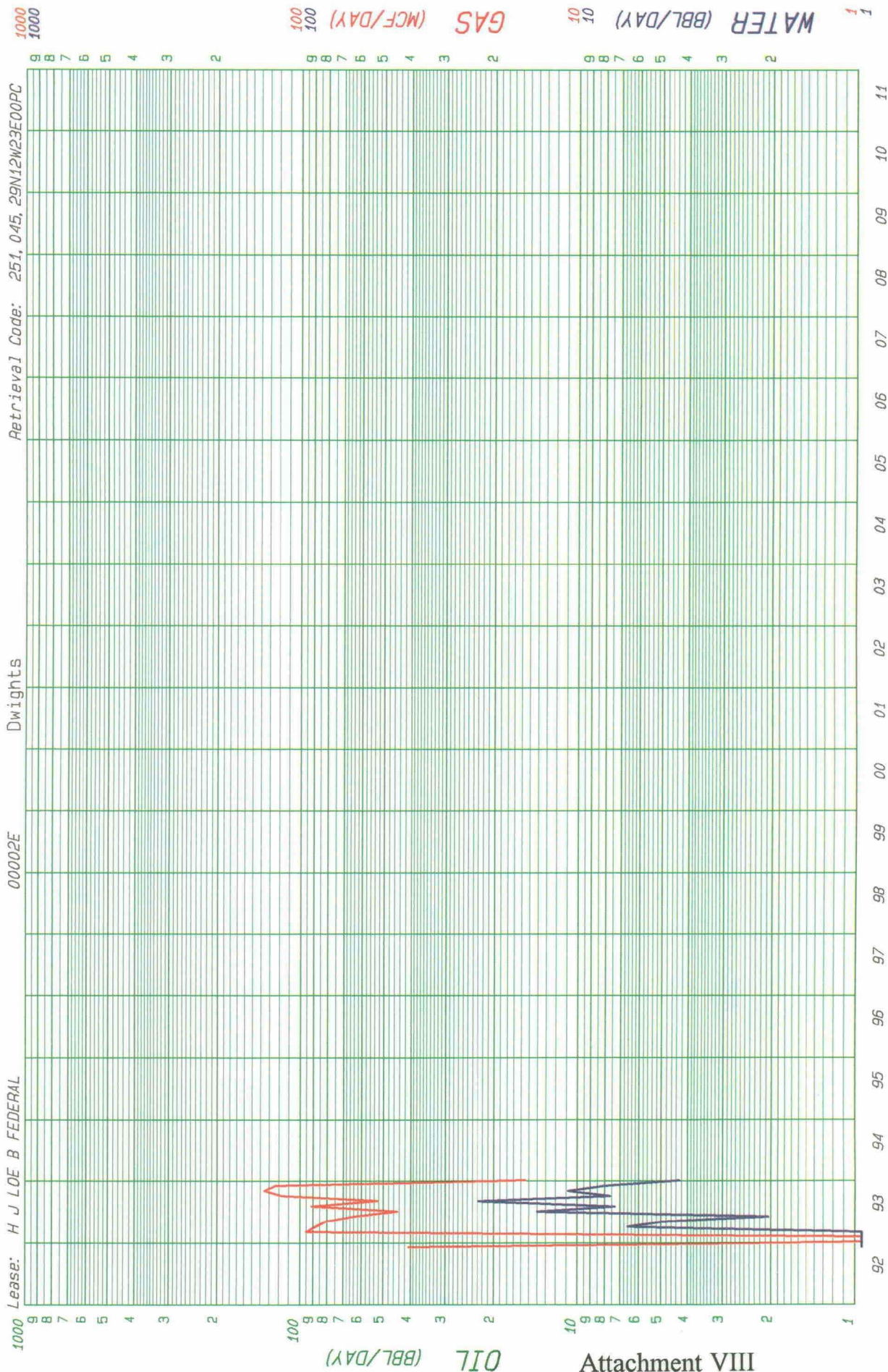
County: SAN JUAN
 Field: BASIN (DAKOTA) DK
 Reservoir: DAKOTA
 Operator: TEXACO EXPL & PROD INC
 Oil Cum: 904 Gas Cum: 154463
 Location: 23E 29N 12W

State: NM

Attachment VII

F.P. Date 04-81

Date: 08-08-94



County: SAN JUAN State: NM
 Field: FULCHER KUTZ (PICTURED CLIFFS) PC
 Reservoir: PICTURED CLIFFS
 Operator: TEXACO EXPL & PROD INC
 Oil Cum: 0 Gas Cum: 28768
 Location: 23E 29N 12W

F.P. Date 11-92

Date: 08-08-94

11/25/92



H. J. LOE FEDERAL B No. 2E CURRENT COMPLETION

WELL:

H. J. Loe Federal B No. 2E

LOCATION:

Unit E, 1700' FNL & 1050' FWL
SW/4, NW/4, Sec. 23, T29N, R12W
San Juan County

SPUD DATE:

10-18-80

COMPL DATE:

12-31-80

PICTURED CLIFFS PERFORATIONS:

1638'-1734'

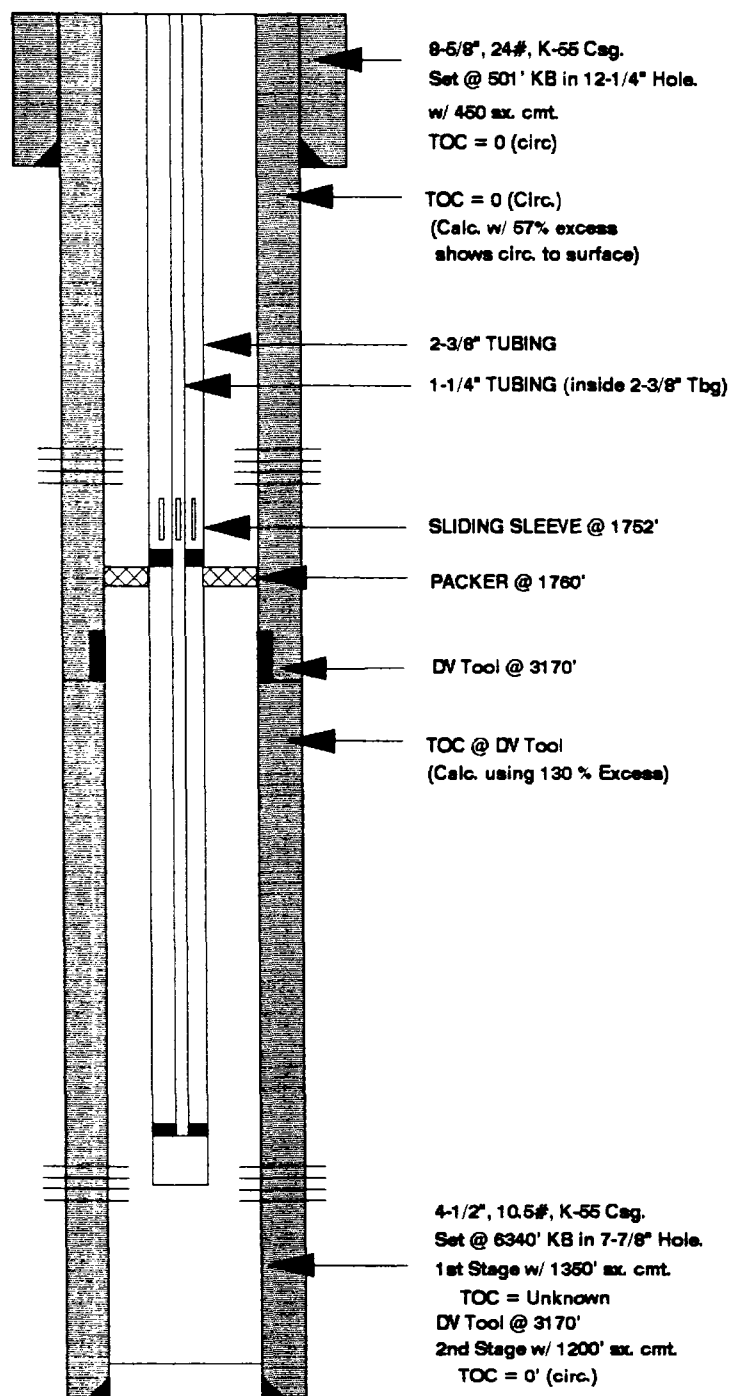
FORMATION TOPS:

Fruitland 1382'
Pictured Cliffs 1632'
Chacra 2681'
Cliffhouse 3224'
Menefee 3388'
Pt. Lookout 4088'
Mancoos 4404'
Gallup 5328'
Greenhorn 6085'
Graneros 6142'
Dakota 6186'

DAKOTA PERFS:

6186' - 6290'

PBTD - 6312'
TD - 6340'



NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator TEXACO E & P INC. Lease H.J.LOE B FEDERAL Well No. 2ELocation of Well: Unit: E Sec. 23 Twp. 29N Rge. 12W County SAN JUAN

	NAME OF RESERVOIR OR POOL	TYPE OF PROD. (OIL OR GAS)	METHOD OF PROD. (Flow or Art. Lift)	PROD. MEDIUM (Tbg. or Csg.)
Upper Completion	FULCHER KUTZ PICTURED CLIFFS	GAS	FLOW	TBG
Lower Completion	BASIN DAKOTA	GAS	FLOW	TBG.

PRE-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, Date shut-in 1:30 PM 11-6-92	Length of time shut-in NINE DAYS	Si press. psig 386	Stablized (Yes or No) YES
Lower Completion	Hour, Date shut-in 2:30 PM 11-9-92	Length of time shut-in SEVEN DAYS	Si press. psig 460	Stablized (Yes or No) YES

FLOW TEST NO. 1

Commenced at (hour, date)* 10:00 AM 11-16-92				Zone producing (Upper or Lower) UPPER	
TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		PROD. ZONE TEMP.	REMARKS
		Upper Completion	Lower completion		
11-17-92	24 HRS.	332	460		
11-18-92	48 HRS.	345	460		COMPRESSOR DOWN
11-19-92	72 HRS.	355	460		COMPRESSOR DOWN
11-20-92	96 HRS.	339	460		
11-21-92	120 HRS.	338	460		
11-22-92	144 HRS.	340	460		
11-23-92	168 HRS.	342	460		COMPRESSOR DOWN

Production rate during test

Oil 0 BOPD based on 0 Bbls. in 24 Hours 0 Grav 0 GOR 0
Gas 124 MCFPD; Tested thru (Orifice or Meter): METER

MID-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, Date shut-in 11:00 AM 11-30-92	Length of time shut-in 8 DAYS	Si press. psig 359	Stablized (Yes or No) YES
Lower Completion	Hour, Date shut-in 3:00 PM 1-14-93	Length of time shut-in 43 DAYS	Si press. psig 460	Stablized (Yes or No) YES

Attachment X

Attachment XI

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator TEXACO E & P INC. Lease H.J.LOE B FEDERAL Well No. 2ELocation of Well: Unit E Sec. 23 Twp. 29N Rge. 12W County SAN JUAN

	NAME OF RESERVOIR OR POOL	TYPE OF PROD. (OIL OR GAS)	METHOD OF PROD. (Flow or Art. Lift)	PROD. MEDIUM (Tbg. or Csg.)
Upper Completion	FULCHER KUTZ PICTURED CLIFFS	GAS	FLOW	TBG
Lower Completion	BASIN DAKOTA	GAS	FLOW	TBG.

PRE-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, Date shut-in	Length of time shut-in	Si press. psig	Stablized (Yes or No)
Lower Completion	Hour, Date shut-in	Length of time shut-in	Si press. psig	Stablized (Yes or No)

FLOW TEST NO. 1

Commenced at (hour, date)*				Zone producing (Upper or Lower)	
TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE		PROD. ZONE TEMP.	REMARKS
		Upper Completion	Lower completion		
12-17-93		187	0		LOWER ZONE LOGGED OFF BOTH ZONES SHUTIN
12-18-93	24 HRS.	222	0		. . .
12-19-93	48 HRS.	236	0		. . .
12-20-93	72 HRS.	249	0		. . .
12-21-93	96 HRS.	84	0		LOWER SHUTIN; UPPER FLOW 24 HRS.
12-22-93	120 HRS.	72	0		LOWER SHUTIN ;UPPER FLOW 24 HRS.

Production rate during test

Oil _____ BOPD based on _____ Bbls. in _____ Hours _____ Grav _____ GOR _____

Gas _____ MCFPD; Tested thru (Orifice or Meter): _____

MID-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, Date shut-in	Length of time shut-in	Si press. psig	Stablized (Yes or No)
Lower Completion	Hour, Date shut-in	Length of time shut-in	Si press. psig	Stablized (Yes or No)

UNICHEM INTERNATIONAL
P.O. BOX 61427 4312 County Road 1298 S.
Midland, Texas 79711

Texaco

Report Date: March 8, 1994
Lab In Date: March 8, 1994
Sample Date: March 4, 1994

Listed below please find our water analysis report from H J Lowe - 2E , DK :

Specific Gravity: 1.025
Total Dissolved Solids: 35126
PH: 7.72
Ionic Strength: .602

=====

CATIONS:		mg/liter
Calcium:	(Ca++)	144
Magnesium:	(Mg++)	136
Sodium:	(Na+)	13176
Iron (Total)	(Fe++)	.60
Barium	(Ba++)	49.50
Manganese:	(Mn++)	0.00
Resistivity:		

=====

ANIONS:		
Bicarbonate:	(HCO3-)	1659
Carbonate:	(CO3--)	0
Hydroxide:	(OH-)	0
Sulfate:	(SO4--)	10
Chloride:	(Cl-)	20000

=====

GASES:

Carbon Dioxide:	(CO2)	*****
Oxygen:	(O2)	*****
Hydrogen Sulfide:	(H2S)	*****

=====

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	.57	-66.53
104F	40.0C	.79	-66.81
122F	50.0C	1.03	-66.53
140F	60.0C	1.37	-65.95
168F	70.0C	1.67	-65.09
176F	80.0C	2.01	-63.02

If you have any questions or require further information, please contact us.

Sincerely,

Jeanne McMurry

Laboratory Technician

cc:

bc: Jerry Woodward

UNICHEM INTERNATIONAL
P.O. BOX 61427 4312 County Road 1298 S.
Midland, Texas 79711

Texaco

Report Date: March 8, 1994
Lab In Date: March 8, 1994
Sample Date: March 4, 1994

Listed below please find our water analysis report from H J Lowe - 2E , PC :

Specific Gravity: 1.000
Total Dissolved Solids: 268
PH: 6.51
Ionic Strength: .004

=====

CATIONS:		mg/liter
Calcium:	(Ca++)	2
Magnesium:	(Mg++)	0
Sodium:	(Na+)	91
Iron (Total)	(Fe++)	19.60
Barium	(Ba++)	1.20
Manganese:	(Mn++)	0.00
Resistivity:		

=====

ANIONS:	Bicarbonate:	(HCO3-)	73
	Carbonate:	(CO3--)	0
	Hydroxide:	(OH-)	0
	Sulfate:	(SO4--)	2
	Chloride:	(Cl-)	100

=====

GASES:

Carbon Dioxide:	(CO2)	*****
Oxygen:	(O2)	*****
Hydrogen Sulfide:	(H2S)	*****

=====

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	-2.73	-21.84
104F	40.0C	-2.45	-21.84
122F	50.0C	-2.33	-21.84
140F	60.0C	-2.13	-21.84
168F	70.0C	-2.01	-20.91
176F	80.0C	-1.85	-19.94

If you have any questions or require further information, please contact us.

Sincerely,

Janne McMurry

Laboratory Technician

cc:

bc: Jerry Woodward

Attachment XII-B

H.J. Loe Federal B No. 2E
Commingled Workover Procedure

1. MIRUSU, NDWH, NUBOP
2. POOH w/ 1-1/4" coiled tubing, POOH w/ 2-3/8" tubing and 4-1/2" Guiberson PKR @ 1760'.
3. RIH w/ rods, pump and 2-3/8" production tubing. NDBOP, NUWH, RDMOSU. Put well on downhole commingled production (PC and DK).

Article Addressed to:
 1381000 Inc.
 3315 Bloomfield Hwy
 Farmington, NM 87401

Signature (Addressee)
[Signature]

Signature (Agent)
[Signature]

4a. Article Number
 Z 743 378 587

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
 8/15/94

8. Addressee's Address (Only if requested and fee is paid)

1. ☐ Addressee's Address
 2. ☐ Restricted Delivery
 Consult postmaster for fee.

3. Article Addressed to:
 Alpine Oil & Gas Corporation
 Box 2567
 Durango, CO 81302

4a. Article Number
 Z 743 378 585

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
 8/15/94

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

Article Addressed to:
 R & G Drilling Company Inc.
 204 N. Auburn Ave
 Farmington, NM 87401

Signature (Addressee)
[Signature]

Signature (Agent)
[Signature]

4a. Article Number
 Z 743 378 590

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
 8/15/94

8. Addressee's Address (Only if requested and fee is paid)

1. ☐ Addressee's Address
 2. ☐ Restricted Delivery
 Consult postmaster for fee.

3. Article Addressed to:
 Southland Royalty Company
 Box 4239
 2919 Allen Pkwy
 Houston, TX 77210

4a. Article Number
 Z 743 378 592

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
 AUG 15 1994

8. Addressee's Address (Only if requested and fee is paid)

Complete items 1 and/or 2 for additional services.
 Complete items 3, and 4a & b.
 Print your name and address on the reverse of this form so that we can return this card to you.
 Attach this form to the front of the mailpiece, or on the back if space does not permit.
 Write "Return Receipt Requested" on the mailpiece below the article number.
 The Return Receipt will show to whom the article was delivered and the date delivered.

1. ☐ Addressee's Address
 2. ☐ Restricted Delivery
 Consult postmaster for fee.

3. Article Addressed to:
 Alpine Oil & Gas Corporation
 Box 2567
 Durango, CO 81302

4a. Article Number
 Z 743 378 585

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery

8. Addressee's Address (Only if requested and fee is paid)

Signature (Addressee)
[Signature]

Signature (Agent)
[Signature]

PS Form 3811, December 1991 U.S. GPO: 1993-352-714 DOMESTIC RETURN RECEIPT

1. ☐ Addressee's Address
 2. ☐ Restricted Delivery
 Consult postmaster for fee.

3. Article Addressed to:
 Producing Royalties Inc.
 Box 1071
 4433 Brownfield Hwy
 Lubbock, TX 79408

4a. Article Number
 Z 743 378 589

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
 8-15-94

8. Addressee's Address (Only if requested and fee is paid)

Signature (Addressee)
[Signature]

Signature (Agent)
[Signature]

PS Form 3811, December 1991 U.S. GPO: 1993-352-714 DOMESTIC RETURN RECEIPT

1. ☐ Addressee's Address
 2. ☐ Restricted Delivery
 Consult postmaster for fee.

3. Article Addressed to:
 Southland Royalty Company
 Box 4239
 2919 Allen Pkwy
 Houston, TX 77210

4a. Article Number
 Z 743 378 592

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
 AUG 15 1994

8. Addressee's Address (Only if requested and fee is paid)

Signature (Addressee)
[Signature]

Signature (Agent)
[Signature]

PS Form 3811, December 1991 U.S. GPO: 1993-352-714 DOMESTIC RETURN RECEIPT

• Complete items 1 and/or 2 for additional services.
• Complete items 3, and 4a & b.
• Print your name and address on the reverse of this form so that we can return this card to you.
• Attach this form to the front of the mailpiece, or on the back if space does not permit.
• Write "Return Receipt Requested" on the mailpiece below the article number.
• The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
Unocal Corporation
Box 850
Bloomfield, NM 87413

4a. Article Number
Z 743 378 593

4b. Service Type
☒ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
DEC 15 1991
USPS

5. Signature (Addressee)
Molessa Ochoa
6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714 DOMESTIC RETURN RECEIPT

Is your RETURN ADDRESS completed on the reverse side?

3. Article Addressed to:
Roddy Production Company Inc.
3001 Northridge Dr.
Farmington, NM 87401

4a. Article Number
Z 743 378 591

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
DEC 14 1991
8. Addressee's Address (Only if requested and fee is paid)

SENDER:
• Complete items 1 and/or 2 for additional services.
• Complete items 3, and 4a & b.
• Print your name and address on the reverse of this form so that we can return this card to you.
• Attach this form to the front of the mailpiece, or on the back if space does not permit.
• Write "Return Receipt Requested" on the mailpiece below the article number.
• The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
Amoco Production
200 Amoco Court
Farmington, NM 87401

4a. Article Number
Z 743 378 586

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)
6. Signature (Agent)
Sue Ratone

8. Addressee's Address (Only if requested and fee is paid)

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PS Form 3811, December 1991 *U.S. GPO: 1993-352-714 DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service

SENDER:
• Complete items 1 and/or 2 for additional services.
• Complete items 3, and 4a & b.
• Print your name and address on the reverse of this form so that we can return this card to you.
• Attach this form to the front of the mailpiece, or on the back if space does not permit.
• Write "Return Receipt Requested" on the mailpiece below the article number.
• The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
Meridian Oil Inc.
3535 E. 30th
Farmington, NM 87401

4a. Article Number
Z 743 378 588

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
DEC 12 1991

5. Signature (Addressee)
Carolyn Curry
6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714 DOMESTIC RETURN RECEIPT